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Job No.: CTCE/BBMP/AN/W.No.12/CEMENT/2013-14

Date: 10.01.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
AGENCY	:	**Mr. Aswath Narayan,** Contractor, Bangalore.
NAME OF THE WORK	:	Improvements to roads and drains at Abbigere Ganesha Temple in Ward No.12 in SSD, BBMP, Bangalore.
REFERENCE	:	EE/DD/WO/41/2013-14 Dated: 12.07.2013
SAMPLE ID	:	Cement
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4)	28.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5)	145 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	480 Minutes	Not More than 600 Minutes
3	Soundness - by the Le-Chatelier method	IS-4031 (Part 3)	1 mm	Not more than 10 mm

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AE 12

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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Job No.: CTCE/BBMP/AN/W.No.12/SAND/2013-14 : 10.01.2014

TEST REPORT ON FINE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Exccutive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.

Agency : **Mr. Aswath Narayan,** Contractor, Bangalore.

Name of Work : Improvements to roads and drains at Abbigere Ganesha Temple in Ward No.12 in SSD, BBMP, Bangalore.

Reference : EE/DD/WO/41/2013-14 Dated: 12.07.2013

Date of Testing : 10.01.2014

Material : Sand Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	98	4.90	4.90	95.1	90-100
2.36	223	11.15	16.05	84.0	75-100
1.18	526	26.30	42.35	57.7	55-90
600 Micron	415	20.75	63.10	36.9	35-59
300 Micron	487	24.35	87.45	12.6	8-30
150 Micron	202	10.10	97.55	2.4	

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Job No.: CTCE/BBMP/AN/W.No.12/WBM-II/2013-14

Date: 20.01.2014

REPORT

Client	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. Aswath Narayan,** Contractor, Bangalore.
Name of the Work	:	Improvements to roads and drains at Abbigere Ganesha Temple in Ward No.12 in SSD, BBMP, Bangalore.
Reference	:	EE/DD/WO/41/2013-14 Dated: 12.07.2013
Type of Mix	:	Water Bound Macadam (Grade-II Metal)
Date of Sampling	:	18.01.2014
Date of Testing	:	20.01.2014

1) SEIVE ANALYSIS :

IS Sieve designation Size, mm	Percentage Passing for Graded Aggregate of Nominal size	Percentage by Weight Passing as per MORTH table 400-7
90mm	100.00	100.00
63mm	93.45	90-100
53mm	28.93	25-75
45mm	8.17	0-15
22.4mm	2.35	0-5

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Job No.: CTCE/BBMP/AN/W.No.12/WBM/AIV/2013-14

20.01.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	**Mr. Aswath Narayan,** Contractor, Bangalore.
Name of the Work	Improvements to roads and drains at Abbigere Ganesha Temple in Ward No.12 in SSD, BBMP, Bangalore.
Reference	EE/DD/WO/41/2013-14 Dated: 12.07.2013
Source / Location	WBM Mix Plant, Bangalore
Type of Mix	Water Bound Macadam
Date of Testing	20.01.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	388	386	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	87	83	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	303	
4	Aggregate Impact value = percent fines	22.42	21.50	
	100* (W_2/W_1)%			21.96

Comments:

→ Maximum allowable Aggregate Impact value for Water Bound Macadam is 30%

Note:

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Job No.: CTCE/BBMP/AN/W.No.12/WBM-II/S-T/2013-14 20.01.2014

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	**Mr. Aswath Narayan,** Contractor, Bangalore.
Name of Work	Improvements to roads and drains at Abbigere Ganesha Temple in Ward No.12 in SSD, BBMP, Bangalore.
Reference	EE/DD/WO/41/2013-14 Dated: 12.07.2013
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Water Bound Macadam (Grade-II Metal)
Date of Testing	20.01.2014

Civil-Tech Consultants & Engineers Bangalore

Result : Flakiness Index = **12.36%**

Elongation Index = **13.84%**

Result : Combined Flakiness & Elongation index 26.20%

Comments:

Maximum allowable Falakiness & Elongation Index for Water Bound Macadam is 30%

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Job No.: CTCE/BBMP/AN/W.No.12/WBM-III/2013-14

Date: 23.01.2014

REPORT

Client	:	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. Aswath Narayan,** Contractor, Bangalore.
Name of the Work	:	Improvements to roads and drains at Abbigere Ganesha Temple in Ward No.12 in SSD, BBMP, Bangalore.
Reference	:	EE/DD/WO/41/2013-14 Dated: 12.07.2013
Type of Mix	:	Water Bound Macadam (Grade-III Metal)
Date of Sampling	:	21.01.2014
Date of Testing	:	23.01.2014

1) SEIVE ANALYSIS:

IS Sieve designation Size,mm	Percentage Passing for Graded Aggregate of Nominal size	Percentage by Weight Passing as per MORTH table 400-7
63mm	100.00	100.00
53mm	97.85	95-100
45mm	68.37	65-90
22.4mm	6.65	0-10
11.2mm	2.30	0-5

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Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Shettyhalli Sub Division, BBMP, Bangalore.
Agency	**Mr. Aswath Narayan,** Contractor, Bangalore.
Name of the Work	Improvements to roads and drains at Abbigere Ganesha Temple in Ward No.12 in SSD, BBMP, Bangalore.
Reference	EE/DD/WO/41/2013-14 Dated: 12.07.2013
Source / Location	WBM Mix Plant, Bangalore
Type of Mix	Water Bound Macadam
Date of Testing	23.01.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	385	387	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	84	86	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	301	
4	Aggregate Impact value = percent fines	21.82	22.22	
	100* (W_2/W_1)%			22.02

Comments:

→ Maximum allowable Aggregate Impact value for Water Bound Macadam is 30%

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Reference	EE/DD/WO/41/2013-14 Dated: 12.07.2013
Technical Reference	IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	Water Bound Macadam (Grade-III Metal)
Date of Testing	23.01.2014

Civil-Tech Consultants & Engineers Bangalore

Result : Flakiness Index = **11.87%**

Elongation Index = **13.93%**

Result : Combined Flakiness & Elongation index **25.80%**

Comments:

Maximum allowable Falakiness & Elongation Index for Water Bound Macadam is 30%

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